U. S. DEPARTMENT OF ENERGY
OFFICE OF CIVILIAN RADIOACTIVE WASTE MANAGEMENT
OFFICE OF QUALITY ASSURANCE

AUDIT REPORT OQA-ARC-99-014

OF

OFFICE OF QUALITY ASSURANCE

AT

LAS VEGAS, NEVADA

SEPTEMBER 20-24, 1999

Prepared by: _____ **Date:** _____
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Approved by:_____ **Date:** _____
Robert W. Clark
Acting Director
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1.0 EXECUTIVE SUMMARY

The Quality Assurance (QA) Compliance Audit was conducted at the Office of Civilian Radioactive Waste Management (OCRWM), Office of Quality Assurance (OQA), in Las Vegas, Nevada, on September 20-24, 1999. The audit evaluated OQA's activities in support of OCRWM for compliance to the Quality Assurance Requirements and Description (QARD), DOE/RW-0333P, Revision 8, and the administrative quality implementing procedures. This audit was led by the National Spent Nuclear Fuel (NSNF) Program's QA Manager to ensure the independence of the audit function from the organization's activities being audited.

The audit team identified six (6) deficiencies, of which one was identified on a Deficiency Identification and Referral (DIR) to Deficiency Report (DR) YMSCO-99-D-101 for resolution by the procedure's responsible manager, and five which required only remedial action were corrected during the audit. These adverse conditions are described in Section 5.5 of this report. Additionally, eight recommendations are offered for OCRWM/OQA management's consideration for improvement. The recommendations are described in Section 6.0. Recommendation numbers 2 and 5 were transferred to OCRWM-ARC-99-015 audit report because the resolutions were the responsibility of the Yucca Mountain Site Characterization Office (YMSCO).

The audit team concluded that overall, the QA Program is adequate and is being implemented by OQA for QA Program elements 1.0, 2.0, 3.0, 5.0, 6.0, 7.0, 9.0, 10.0, 11.0, 15.0, 16.0, 17.0, 18.0 and Supplements I and III. QA Program elements 8.0, 13.0, Supplements II, IV, V, and Appendices A & B were determined not to apply to OQA. Currently there was no activity for QA elements 4.0, 12.0, 14.0 and Appendix C.

The audit team evaluated the effectiveness of corrective actions on 10 DRs issued to OQA for resolution in 1998. The corrective action was determined to be effective for all the following: OQA-98-D-082, which addressed YLP-10.16 and OQA not addressing maintenance of YLP-OQA Field Inspection and Test Procedures. OQA-98-D-080 addressed Certification of Quality Control Inspection not performed properly. OQA-98-D-069 addressed DRs not processed properly. OQA-99-D-021 addressed deficiency documents not initiated when records review identified deficient conditions. OQA-98-D-020 addressed SDR-145 being closed when the corrective actions did not meet the governing procedures. OQA-99-D-016 addressed instruments not entered in the Measuring and Test Equipment (M&TE) systems. OQA-98-D-010 addressed the QA trend program not being effective or timely. OQA-98-P-007 addressed monitoring and inspection of rockbolts not performed in accordance with Inspection Plan 007. OQA-98-003 addressed memos issued for supplier evaluations conflicts with AP-7.4Q and QAP 7.2.

2.0 SCOPE

This limited scope compliance audit was led by a lead auditor from the NSNF QA Program from Idaho Falls, Idaho. In addition, an auditor from Idaho Falls evaluated those QARD elements that were being performed by the three OQA organizations: Quality Systems, Verification and Site Quality. The remaining team members were from different OQA organizations and were assigned to audits other than their assigned area, to preclude any conflict of interests.

The audit team conducted interviews and reviews of documentation to evaluate the adequacy, compliance, and effectiveness of implementation of the OCRWM QARD, DOE/RW-0333P, Revision 8, document and implementing procedures. In addition, the audit team reviewed the closed deficiency documents issued to OQA during 1998 to determine the effectiveness of completed corrective actions by OQA.

In accordance with the approved audit plan, the following QA program elements were evaluated:

QA Program Elements

1.0 Organization
2.0 QA Program
3.0 Design Control
5.0 Implementing Documents
6.0 Document Control
7.0 Control of Purchased Items and Services
9.0 Control of Special Processes
10.0 Inspection
11.0 Test Control
15.0 Nonconformances
16.0 Corrective Action
17.0 Quality Assurance Records
18.0 Audits
Supplement I, Software
Supplement III, Scientific Investigations

The following QA Program elements were not reviewed during the audit, since OQA is not currently responsible for their implementation. In addition, they were evaluated by Audits M&O-ARC-99-011 and OCRWM-ARC-99-015.

4.0 Procurement Document Control
8.0 Identification and Control of Items
12.0 Control of Measuring and Test Equipment
13.0 Handling, Storage and Shipping
14.0 Inspection, Test and Operating Status

Supplement II, Sample Control
Supplement IV, Field Surveying
Supplement V, Control of Electronic Management of Data
Appendix A, High-Level Waste Form Production
Appendix B, Storage and Transportation
Appendix C, Mined Geological Disposal System

3.0 AUDIT TEAM

Since the OQA has three quality organizations, the auditors were assigned areas to audit that were not part of their work activities. The following is a list of audit team members and their assigned areas of auditing responsibility:

Name/Title/Organization	QA Program Elements
Tom R. Lewallen, Audit Team Leader, NSNF QA	1.0
Cheryl J. Allen, Auditor, NSNF QA	5.0, 6.0, 17.0, 18.0 (elements crossing the 3 QA organizations)
Donald J. Harris, Auditor, OQA (Quality Systems)	1.0, 2.0, 3.0, 5.0, 6.0, 17.0, SI-1
Linda Galyon, Auditor, OQA (QA Verification)	1.0, 2.0, 5.0, 6.0, 16.0, 17.0, 18.0
Jim Graff, Auditor, OQA, SNL Rep (Site Quality)	2.0, 5.0, 6.0, 7.0, 9.0, 10.0, 15.0 16.0, 17.0, SIII

4.0 AUDIT TEAM MEETINGS, PERSONNEL CONTACTED AND DOCUMENTS REVIEWED

A pre-audit meeting was conducted at OQA on Monday, September 20, 1999. Daily debriefings were held to apprise OQA management and staff of the progress of the audit and any identified conditions adverse to quality. A post-audit meeting was conducted at OQA on Friday, September 24, 1999.

Attachment 1, Personnel Contacted During the Audit, includes those personnel who attended the pre-audit and post-audit meetings.

5.0 SUMMARY OF RESULTS

5.1 Program Effectiveness

The audit team concluded that overall, the QA Program is adequate and is being effectively implemented by OQA for QA Program elements 1.0, 2.0, 3.0, 5.0, 6.0, 7.0, 9.0, 10.0, 11.0, 15.0, 16.0, 17.0, 18.0, and Supplements I and III. Elements 4.0, 8.0, 12.0, 13.0 and 14.0, Supplements II, IV, V and Appendices A, B and C do not apply to OQA.

There was a recent Process Validation and Reengineering (PVAR) of the procedures to reduce the number of Affected Organization (AO) procedures and provide a uniform and consistent methodology for performing activities by all AOs. An effort continues to consolidate and streamline the procedures. The Audit Team identified one inadequate procedure that was submitted to the audit team for Audit OQA-ARC-99-015 as a DIR to DR YMSCO-99-D-101, and the transfer of two recommendations for consideration of management because the resolutions are the responsibility of YMSCO.

5.2 Stop Work or Immediate Corrective Action Taken

There were no Stop Work Orders or immediate corrective actions taken as a result of the audit.

5.3 QA Program Implementation

Attachment 2, Summary Table of Audit Results, provides results for each QA Program element audited. Details of the audit, including the objective evidence reviewed, are documented in the audit checklist. The checklist is maintained as a QA record.

5.4 Technical Audit Activities

There were no technical areas evaluated during this audit.

5.5 Summary of Conditions Adverse to Quality

The audit team identified one condition adverse to quality that was documented on a DIR form and submitted to OQA Audit Team for Audit OQA-ARC-99-015 for inclusion into DR OCRWM-99-D-101. In addition, there were five conditions adverse to quality requiring remedial action only, and were corrected prior to the post-audit meeting. A synopsis of the conditions adverse to quality identified during the audit are detailed below.

5.5.1 Corrective Action Requests

None

5.5.2 Deficiency Reports

OCRWM-99-D-101 (DIR)

QARD, Section 5.0, requires the contents of implementing documents include information appropriate to work to be performed. In addition, QARD, Section 2.2.10, states, "Implementing documents and documents that specify technical or quality requirements shall be reviewed to the requirements and for any additional requirements specified by the applicable section of the QARD."

HLP-7.1Q does not contain sufficient nor appropriate detail regarding development of Memorandum of Agreements between OCRWM and Affected Organizations providing waste packages to the geologic repository.

5.5.3 Deficiencies Corrected During the Audit (CDA)

Deficiencies considered isolated in nature and only requiring remedial action can be corrected during the audit. The following five deficiencies were corrected during the audit:

1. AP-2.1Q, Rev. 0, ICN 0, "Indoctrination and Training of Personnel," requires that the manager "ensures" employee completes the indoctrination and training of personnel under their direction prior to assigning work subject to QARD.

   Training was originally identified on the Training Assignment form for 3 new employees that encompassed AP and YAP procedures. The Train Serve database that is utilized to verify completion of training by the manager has a lag time of the training completion input. Consequently, the training could not be verified as complete. Subsequently, a new Training Assignment form was initiated to remove (delete) all but the minimum required training on 9/21/99.

2. AP-2.2Q, "Establishment and Verification of Required Education and Experience of Personnel," Revision 0, requires the Manager to ensure the individuals' qualifying experience prior to assigning work within the scope of this procedure.

   Harvey Dove and Terry Abernathy lacked the required verification of 5 years' experience listed on the position description. In both cases, only their last employment by SAIC Human Resources was verified,

which was 10 months in one case and 22 months in the other case. The required experience of both employees was performed and documented during the audit.

NOTE: Prior to the employment offer being extended to the employee, the managers did perform telephone checks on the employee in regard to education and qualifying experience; however, the notes lacked all the information required by procedure.

3. QAP 2.8, "Surveillance," Revision 2, requires that all documented listed in Subsections 6.1 and 6.2 be collected and submitted to the Records Processing Center (RPC) in accordance with AP 17.1Q, which requires a QA designator be listed.

   The Quality Assurance Specialist (QAS) for Surveillance LVMO-SR-99-007, 011, 015 and 016 did not denote a QA designator when submitted, as the packages required. The QAS's packages were corrected and submitted as a supplement to the package.

4. QAP 18.2, "Internal Audit Program," Revision 8, requires the verification of Technical Specialists qualification for each audit by indoctrination and orientation, reviewing the background experience or training of the specialist ensuring completion of Attachment 6 sign off …"

   LANL-ARP-99-001 of 10/19-23/98 did not have Attachment 6, "Audit Guide for Technical Specialist," in the records package. Attachment 6 was completed and supplemented to the package before audit completion (9/23/99). M&O-ARP-99-002 of 5/3-14/99 does not identify Ken Gilkerson as the Lead Auditor. (The information was there, but not the header. The record did not require supplementation.)
   Floyd Dove's signature was on Attachment 6 the last day of the audit. Clarification was needed as to when the Technical Specialist was required to sign Attachment 6. M&O-ARP-99-012 had Attachment 6 completed, but it was not in the record package. The Attachment 6 was supplemented to the records package before completion of the audit (9/23/99).

5. QAP 18.3, "Supplier Surveys/Audits," Revision 2, ICN 1, requires the Supplier Survey/Audit Team Leader to assemble the QA records in accordance with Section 6.0, which includes the Deficiency Document Encoding Forms (DDEF).

The DDEFs for OQA-SA-99-015 and 017 were not collected and submitted to the RPC as a single QA records package in accordance with AP-17.1Q. The forms were collected and submitted as a supplement to the records package prior to completion of the audit. (9/24/99).

5.5.4 Follow-up of Previous Issued Deficiency Documents

Ten DRs applicable to OQA were identified and reviewed during the course of the audit to ensure the corrective action was effective and no repetitive conditions existed during this audit.

OQA-98-D-082
The QARD, Section 2.2.1.B, requires the AOs to establish implementing documents applicable to their scope of work. Section 6.2.2 requires the responsibility for preparing and maintaining documents shall be assigned to the appropriate organizations.

The corrective action on this DR was determined to be effective. The YLP-10.16-OQA, "Development, Approval and Maintenance of Inspection, Monitoring and Surveillance Plans," was revised to address performing impact reviews of Kiewit/Parsons Brinckerhoff (Kiewit/PB) documents used in developing inspection plans and procedures.

OQA-98-D-08
The QARD, Section 10.2.9.H.1, requires the job performance of Inspection and Test personnel to be evaluated at periodic intervals not to exceed three years. YAP-10.1Q, Paragraph 5.2.1.C, specifically requires that the Level III authorized certified agent administer the applicable written examinations and/or witness capability demonstrations. The Lessons Learned/Programs Clarification Number 96-002, allowed the receiving organization to utilize certified personnel of another AO until the periodic evaluation of the qualification data.

The corrective action on this DR was determined to be effective. An impact evaluation was performed and documented as no adverse impact. The certification records reviewed, a capability examination by a L-III was administered and documented, and C. T. Taylor was assigned primary responsibility for tracking certification packages of all Inspection Personnel.

OQA-98-D-069
YAP-15.1Q, Paragraph 5.1.1, required issuance of a Nonconformance Report (NCR) for a nonconforming item, sample or procedure. AP-16.1Q, Paragraph 5.7 required, when notified, that actions to the DR are complete, process the DR to closure if the actions have been satisfactorily implemented.

The corrective action on this DR was determined to be effective. The seismometer calibration for the Great Southern Basin Digital Seismic Network was revised, technically reviewed and approved by Natural Environment Program Operation, and submitted to the RPC.

OQA-98-D-020
QMP-16.03, Paragraph 5.4.2, required SDR responses to be reviewed by the responsible QA engineer for remedial action. Investigative action and corrective action, upon satisfactory verification forward the SDR to the approval authorities per Paragraphs 5.2.2 and 5.2.2.3. The SDR 145 issued 7/25/88, documented that the minimum education and experience was not specified in the position descriptions. The amended response did not address the deficiency and the manager approval was obtained and the verification of corrective action was identified as satisfactory.

The corrective action for this DR was determined to be effective. AP 2.2Q, Revision 0, effective 6/30/99, contained clear direction for personnel qualifications of both federal and non-federal organizations, and the audit schedule and audit criteria (checklist) were evaluated to ensure it addressed personnel qualification during audits of AOs.

OQA-98-D-010
The QARD, Paragraph 16.2.6, quality trending, requires OQA to establish criteria reports and corrective action requests to identify adverse trends and help identify root causes and perform trend evaluations at the frequency that provides prompt identification of trends.

The corrective action for this DR was determined to be effective. AP-16.3Q was revised to establish responsibilities, trend codes and define trend criteria in which to measure when a trend is present. The AP-16.3Q was effective August 3, 1998 and two trend reports have been well received by management and the Nuclear Regulatory Commission.

OQA-98-D-003
AP-7.4Q, required OQA to forward a cover memo, copy of the initial Supplier Audit Report, and Supplier Evaluation Report (SER) to the AO. The AOs determine if the supplier is qualified, and on the cover memo, indicate the

qualification status. QAP-72. requires the director, OQA, to generate a memo notifying the AOs of the results and status, qualifications, restrictions, etc., and provide a place for signature and date of the AO's representative.

The corrective action on this DR was determined to be effective. The QAP 7.2 was deleted on 11/2/98, the requirements were incorporated into AP-7.4Q, which provides a step to include the authorized AO evaluation and approval on the SER.

OQA-98-P-007
YLP-10.13Q required the monitoring of rockbolt installations at least once a shift, but not less than twice a day. Thirty split sets pins were installed without the required monitoring.

The corrective action on this DR was determined to be effective. NCR YMSCO-98-0012 was issued to Kiewit/PB for analysis and inclusion into the work package. Inspection assignments during subsurface construction was increased, and coordination between OC and construction engineering was agreed to by both parties.

OQA-99-D-021
AP-17.1Q, Paragraph 5.5(b) requires that for incomplete or illegible records, initiate a deficiency document in accordance with AP-16.1Q. AP-16.1Q, Paragraph 5.5 requires the AO personnel to compile the initiation actions on the PR/DR, including results of any preliminary investigation and Paragraph 5.1.2(o) required completing the trend code information on the DDEF form. Contrary to the above, YLP-10.18Q-OQA work package review, required discrepancies to the identified on the work package discrepancy report.

The corrective action on this DR was determined to be effective. The YLP-10.18Q-OQA was revised into YAP-10.2Q, "Work Package Reviews," effective 5/12/99. The procedure provided specific criteria as to when to address deficient work package documents on a DR or NCR. The Director, OWA, in letter OQA:MRD-1727 has directed OQA/Quality Assurance Technical Support Services (QATSS) to issue NCRs rather than DRs.

OQA-99-D-016
The QARD, Section 12.2.1.E, requires M&TE to be labeled, tagged or marked to indicate calculation due date. Section 12.1.F requires unique identification to provide traceability. Section 12.2.2 requires the use of M&TE to be documented. Contrary to the above, M&TE pH meter was not entered into the M&TE calibration system and the above requirements were not satisfied.

The corrective action on the DR was determined to be effective. A Request for Clarification (RFC) 99/008 was provided by the SE, based on the RFC. An ICN

to YAP-11.1Q was approved, which defines calibration requirements for temperature probes and to define glassware as a minimum class 13. The calibration status of equipment at the Batch Plant was verified to be in the Calibration System, and verified the temperature probes and instruments were calibrated as a unit. New procedures for calibration were approved and training was provided.

6.0 RECOMMENDATIONS

1. QAP 1-1, "Organization," and YLP-1.1Q, "Organization," need to be revised to reflect the current organizational responsibilities and authorities.

2. AP 2.1Q, "Indoctrination & Training" (Submitted to Audit OCRWM-ARC-99-015).

   Section 2.1.d) requires managers to ensure indoctrination and training are completed prior to performing the work. There is a lag time between the training being provided and input into the training database used by the manager to verify the training is complete. The Training Assignments and Completion of Training should be input into the Train Serve Database on an expedited time frame if this database is to be used by the managers to verify the completion of the required training. Any training form problems should be resolved after the data is input into the Train Serve Database.

3. AP-2.2Q, "Establishment and Verification of Required Education and Experience"

   Section 5.2 requires that minimum education and experience required for the position is verified. Staffing organization only goes back to previous employer and only that experience is verified. QATSS should perform the required education and work experience verification prior to hiring the person. The procedure allows telephone verification as long as they are properly documented.

4. QAP 2.8, "Surveillance"

   Revise QASR form to reflect the QA designator as required by AP 17.1Q. Some quality affecting procedures already have the Records Classification printed on them, and some of the older ones do not. All forms required by any quality affecting procedure should be reviewed and recreated with the Records Classification identified.
5. AP-5.1Q, "Procedure Preparation, Review and Approval" (Submitted to OCRWM-ARC-99-015 deficiency)

   QARD, Revision 8, "Quality Assurance Program," Paragraph 2.2.1.B.1, requires that each AO establish a structured system of implementing documents providing for top down implementation of the QARD. AP 5.1Q does not adequately illustrate the flowdown requirements implementation. Revise AP 5.1Q to incorporate the Document Structure Chart utilized in the PVAR project that illustrates the hierarchy of all implementing procedures to

date with the chart showing the structure of the AP/LP system being developed. This would provide clarification of the process and visually illustrate the current status and future plan.

6. AP 16.1Q, Revision 4, ICN 0, "Management of Conditions Adverse to Quality"

   a) Paragraph 5.11.1.A), requires QAR to sign and date the DR/CAR in Block 22 to indicate that all actions required to resolve or void the deficiency are complete. If the DIR has two names as initiator, then both signatures should accept the justification for voiding the DR.

   b) Records Section 6.0 needs to be evaluated for accuracy, i.e., Overdue Action Item Report is not a record, as indicated.

7. AP 17.1Q, "Record Source Responsibilities for Inclusionary Records"

   General recommendation that all record sources double check the requirements in this new procedure to alleviate small editorial errors found in various element sections.

8. QAP 18.3, Supplier/Survey Audit

   a) Revise procedure to reflect current organizational structure

   b) Revise Section 6.2 to remove the wording "Any supplier documents such as quality manuals, specifications, contracts…"

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit
Attachment 2: Summary of Table of Audit Results

ATTACHMENT 1

Personnel Contacted During the Audit

Name	Organization	Pre-Audit Meeting	Contacted During Audit	Post-Audit Meeting
Blaylock, J.	DOE/OQA	X		
Clark, R.	DOE/OQA	X		X
Cox, H.	OQA/QATSS		X	
Dana, S.	OQA/QATSS	X	X	
Devers, J.	OQA/QATSS	X	X	
Diaz, M.	DOE/OQA	X	X	
Eshleman, M.	OQA/QATSS		X	
Gilkerson, K.	OQA/QATSS			X
Glasser, W.	OQA/QATSS	X	X	X
Greene, H.	OQA/QATSS	X	X	X
Habbe, R.	OQA/QATSS	X	X	X
Hasson, R.	OQA/QATSS	X		X
Horton, S.	OQA/QATSS	X		
Humphries-Alder, C.	OQA/QATSS		X	
Jensen, E.	OQA/QATSS	X		X
Kirby, D.	OQA/QATSS		X	
Martin, J.	OQA/QATSS	X	X	X
Mattimoe, J.	OQA/QATSS	X		X
McAndrews, H.	SAIC HR		X	
McDaniel, M.	OQA/QATSS		X	X
McFall, K.	OQA/QATSS	X		
Moore, S.	OQA/QATSS		X	
Murthy, R.	DOE/OQA	X	X	X
Noel, R.	OQA/QATSS		X	
Opelski, E.	OQA/QATSS	X		X
Osborne, D.	OQA/QATSS		X	
Schuermann, S.	OQA/QATSS	X	X	X
Sult, D.	OQA/QATSS	X	X	
Taylor, C.	OQA/QATSS	X	X	X
Therien, J.	OQA/QATSS	X	X	
Tunney, D.	OQA/QATSS		X	
Wagner, L.	OQA/QATSS			X
Williams, A.	DOE/OQA	X	X	
Williams, W.	OQA/QATSS		X	

ATTACHMENT 2

Summary Table of Audit Results
For Procedural Compliance Evaluations

DETAIL SUMMARY									
ELEMENT	IMPLEMENTING DOCUMENTS	TITLE	DETAILS ( ) List	DEFICIENCY REPORTS	CDAs	RECOM #	PROGRAM ADEQUACY	PROCEDURE COMPLIANCE	OVER ALL
1	QAP-1.1	Organization	Pgs. 1-2	None	N/A	1	SAT	SAT	SAT
	YLP-1.1Q	Organization	Pg. 3	None	N/A	N/A	SAT	SAT	SAT
2	AP-2.1Q	Indoctrination & Training	Pgs. 4-6	None	1	2 referred	SAT	SAT	SAT
	YLP-2.1Q	YMSCO Qualification & Training	Pgs. 7-8	None	N/A	N/A	SAT	SAT	SAT
	AP-2.2Q	Establishment & Verification of Req. Education & Experience	Pgs. 9-12	None	2	3	SAT	SAT	SAT
	AP-2.14Q	Review of Technical Products	Pgs. 13-15	None	N/A	N/A	SAT	SAT	SAT
	AP-2.15Q	Work Package Planning Summ.	Pgs. 16-17	None	N/A	N/A	SAT	SAT	SAT
	QAP-2.4	Maintenance of the QARD	Pgs. 18-19	None	N/A	N/A	SAT	SAT	SAT
	QAP-2.8	Surveillance	Pgs. 20-22	None	3	4	SAT	SAT	SAT
3	NLP-3-33	System Description Documents	Pg. 30	None	N/A	N/A	SAT	SAT	SAT
	NLP-3-34	MGR Interface Control Doc.	Pgs. 31-32	None	N/A	N/A	SAT	SAT	SAT
	NLP-3-35	ESF Walk-Down for Quality Affecting Ground Support	Pgs. 33-34	None	N/A	N/A	NI	NI	
5	AP-5.1Q	Procedure Preparation, Review and Approval	Pgs. 3a, 35-38 and 112a	DIR YMSCO-98-D-101	N/A	5 referred	SAT	SAT	SAT
	QAP-5.1	QA Program Procedures	Pgs. 39-46	None	N/A	N/A	SAT	SAT	SAT
6	AP-6.1Q	Controlled Documents	Pg. 47	None	N/A	N/A	SAT	SAT	SAT
	QAP-6.2	Document Review	Pgs. 48-51	None	N/A	N/A	SAT	SAT	SAT
7	AP-7.4Q	Maintenance of OCRWM QSL	Pgs. 52-56	None	N/A	N/A	SAT	SAT	SAT
	QAP-7.3	Procurement Process	Pgs. 57-58	None	N/A	N/A	SAT	SAT	SAT
	YLP-7.1Q	Acceptance of Purchased Products/Materials	Pgs. 59-60	None	N/A	N/A	SAT	SAT	SAT

DETAIL SUMMARY									
ELEMENT	IMPLEMENTING DOCUMENTS	TITLE	DETAILS ( ) List	DEFICIENCY REPORTS	CDAs	RECOM #	PROGRAM ADEQUACY	PROCEDURE COMPLIANCE	OVER ALL
9	YAP-9.1Q	Qual. & Cert. of Nondestructive Examination Personnel	Pgs. 61-62	None	N/A	N/A	SAT	SAT	SAT
10	YAP-10.1Q	General Inspection & Test Personnel Certification	Pgs. 63-64	N/A	N/A	N/A	N/A	N/A	N/A
	YAP-10.2Q	Work Package Review	Pgs. 65-66	N/A	N/A	N/A	N/A	N/A	N/A
	YLP-10.1Q	Concrete Batch Plant Inspection	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	YLP-10.3Q	Sampling and Testing of Freshly Mixed Concrete	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	YLP-10.4Q	Cast-in-Place Concrete Inspect.	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	YLP-10.5Q	Shotcrete Inspection	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	YLP-10.6Q	Laboratory Curing, Compression Testing, et al	N/A	N/A	N/A	N/A	SAT	SAT	SAT
	YLP-10.8Q	Placement and Control of Hold/Reject Tags	Pgs. 67-68	None	N/A	N/A	SAT	SAT	SAT
	YLP-10.13Q	Rockbolt Installation & Pull Test Inspections, et al	No work in progress		N/A	N/A	NI		
	YLP-10.14Q	Inspection of Subsurface Drill & Blast Operations	Pg. 69	None	N/A	N/A	SAT	SAT	SAT
	YLP-10.17Q	General QC Inspect. & Testing	Pgs. 70-74	None	N/A	N/A	SAT	SAT	SAT
	YLP-10.19Q	Monitoring of Subsurface Gen. Construction & Cross Drift Subsurface Gen. Construction	Pgs. 75-77	None	N/A	N/A	SAT	SAT	SAT
	YLP-10.21Q	Monitoring of Maintenance & Operations of Surface Facilities	Pg. 78	None	N/A	N/A	SAT	SAT	SAT
	YLP-10.22Q	Monitoring of Water Use for Construction & Operations	Cancelled	N/A	N/A	N/A	N/A	N/A	N/A
	YLP-10.23Q	Monitoring of Mat. & Equip.	Pg. 79	None	N/A	N/A	SAT	SAT	SAT
	YLP-10.24Q	Monitoring of Control & Storage of Material	Pg. 80	None	N/A	N/A	SAT	SAT	SAT
	YLP-31.6-OQA	Potable Water System Chlorine Residual Measurement	N/A – Not checklisted		N/A	N/A	N/A	N/A	N/A
11	YAP-11.1Q	Bromide Ion Tracer Water Sampling & Testing	N/A – Not checklisted		N/A	N/A	N/A	N/A	N/A
15	YAP-15.1Q	Control of Nonconformances	Pgs. 81-83	None	N/A	N/A	SAT	SAT	SAT

DETAIL SUMMARY									
ELEMENT	IMPLEMENTING DOCUMENTS	TITLE	DETAILS ( ) List	DEFICIENCY REPORTS	CDAs	RECOM #	PROGRAM ADEQUACY	PROCEDURE COMPLIANCE	OVER ALL
16	AP-16.1Q	Management of Conditions Adverse to Quality	Pgs. 84-91	None	N/A	6	SAT	SAT	SAT
	AP-16.3Q	Trend Evaluation & Reporting	Pgs. 92-96	None	N/A	N/A	SAT	SAT	SAT
	AP-16.4Q	Root Cause Determination	Pgs. 97	None	N/A	N/A	NI		
17	AP-17.1Q	Record Source Responsibilities for Inclusionary Records	Pgs. 98-103	None	N/A	7	SAT	SAT	SAT
18	QAP-18.1	Auditor Qualification	Pg. 105	None	N/A	N/A	SAT	SAT	SAT
	QAP-18.2	Internal Audit Program	Pgs. 106-110	Self-Identified	4	N/A	SAT	SAT	SAT
	QAP-18.3	Supplier Surveys/Audits	Pg. 110 a-d	None	5	8	SAT	SAT	SAT
SI	AP-SI.1Q	Software Management	Pgs. 111-112	None	N/A	N/A	SAT	SAT	SAT